

REMARKS

The Applicant's representative wishes to express his appreciation for the opportunity to discuss the Application with Examiner Briney during a telephone call of March 2, 2005. In addition, the Applicant's representative wishes to note the recognition by the Examiner of novel aspects of claim 1, in particular, the novelty of the switching arrangement employed.

Amendments to the Claims

Claim 1 has been amended to correct a minor typographical error, to correct an antecedent basis issue, and to include the elements of claim 5. The Applicant submits that no new matter is added by this amendment.

Claim 3 has been amended to correct a minor typographical error by substituting the word "impulse" for the word "element". The Applicant submits that no new matter is added by this amendment.

Claim 4 has been amended to correct a minor typographical error by substituting the word "impulse" for the word "element" and to remove the words "at least". The Applicant submits that no new matter is added by this amendment.

Claim 5 has been cancelled.

Claim 6 has been amended to correct claim numbering, and to add the text "mode of operation is a hybrid balance mode and the second mode of operation is a sidetone mode." The Applicant submits that no new matter is added by this amendment.

Claim 12 has been amended to include the elements of claim 16. The Applicant submits that no new matter is added by this amendment.

Claim 15 has been amended to correct minor typographical errors. The Applicant submits that no new matter is added by this amendment.

Claim 16 has been cancelled.

Claim 17 has been amended to correct claim dependency. The Applicant submits that no new matter is added by this amendment.

Claim 20 has been amended to correct minor typographical errors. The Applicant submits that no new matter is added by this amendment.

Rejections of Claims

Claims 1-22 are pending in the application. Claims 1, 9, 12, and 20 are independent claims. Claims 2-8, 10-11, 13-19, and 21-22 depend, respectively, from independent claims 1, 9, 12, and 20. Claims 5 and 16 have been cancelled. The Applicant requests reconsideration of the pending claims 1-4, 6-15, and 17-22, in light of the following remarks.

Claims 1-3, 5-14, and 16-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marchok et al. (US Patent 6,522,746) and Foster et al. (US Patent 6,466,550) in view of Vijaykumar et al. (<http://homepages.cae.wisc.edu/~mikko/552/ch5.ppt>). The Applicant respectfully traverses the rejection.

As a first matter, the Office action alleges that the Vijaykumar reference, provided only as a universal resource locator (URL) to an Internet web site, represents prior art in the Application. The Applicant respectfully disagrees. The information provided about the Vijaykumar reference in the Application and on the PTO-892 form fails to meet the requirements of M.P.E.P. §707.05(e). For example, no date of retrieval of the cited reference from the Internet is given. Therefore, the Office action has failed to provide any support to establish that the Vijaykumar reference is, in fact, prior art with respect to Applicant's invention. The Applicant respectfully requests that the Examiner comply with the requirements of M.P.E.P. §707.05(e) or, if the citation is based upon personal knowledge, provide information regarding the date of publication of the Vijaykumar reference in the form of an affidavit or declaration. If the Examiner is unable to comply with M.P.E.P. §707.05(e), and cannot attest to personal knowledge of the nature of the reference, the Applicant respectfully requests that the Vijaykumar reference be withdrawn. Notwithstanding this request, Applicant responds to the alleged teachings of the Vijaykumar reference in detail, below.

The Office action submits (See Office action at page 2.) that "this claim is directed to an obvious combination of two previously well-known prior art devices." The Applicant respectfully

disagrees. The courts have held that “there is no basis for concluding that an invention would have been obvious solely because it is a combination of elements that were known in the art at the time of the invention.” (See *Smiths Industries Medical Systems, Inc. v. Vital Signs, Inc.*, 51 USPQ2d 1415 (Fed. Cir. 1999)). The Applicant respectfully submits that claim 1 does not simply claim, in combination, a hybrid balance and sidetone apparatus, but instead a single apparatus that performs those functions in a novel way. The Applicant respectfully submits that not only is the combination itself novel, but that additional aspects of the invention that enable the combination, as set forth in the claims, are also novel.

The Applicant respectfully submits that the Examiner has failed to establish a case of *prima facie* obviousness for at least the reasons provided below. M.P.E.P. §2142 clearly states that “[t]he examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness.” The M.P.E.P. §2142 goes on to state that “[t]o establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant’s disclosure.”

Regarding claim 1 as amended, the Applicant respectfully submits that the proposed combination of references, when taken as a whole, do not teach, suggest, or disclose, for example, a combined sidetone and hybrid balance apparatus comprising at least one filter, the at least one filter having an input and an output, wherein the at least one filter uses a first predetermined set of filter coefficients in a first mode of operation, and a second predetermined set of filter coefficients in a second mode of operation; a combiner having at least a first input and a second input, the second input coupled to the output of the at least one filter, the combiner for combining the at least a first input and a second input to produce an output; a first switch coupling a first input signal to the first input of the combiner in the first mode of operation, and coupling a second input signal to the first input of the combiner in the second mode of operation; a second switch coupling the output of the combiner to a first output in the first mode of operation, and coupling the input of the at least

one filter to the first output in the second mode of operation; a third switch coupling the second input signal to the input of the at least one filter in the first mode of operation, and coupling the first input signal to the input of the at least one filter in the second mode of operation; and a fourth switch coupling the input of the at least one filter to a second output in the first mode of operation, and coupling the output of the combiner to the second output in the second mode of operation.

First, the Applicant respectfully submits that the Office action has failed to identify some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine reference teachings as disclosed in amended claim 1. The Marchok reference fails to disclose anything with respect to the generation of sidetone, and mentions the existence of sidetone only in passing (See col. 8, l. 53). Marchok is also silent with respect to the existence of a hybrid circuit and the issue of hybrid balance. The Foster reference makes no reference to the issue of hybrid balance, and mentions echo only in passing, with respect to the subtraction of a speaker's signal from the combined signal returned to that speaker by a conference bridge (See col. 1, ll. 43-50). Finally, the Vijaykumar reference is silent with respect to both hybrid balance and the generation of sidetone, and makes no mention at all of the processing of audio signals. The Applicant therefore respectfully submits that the Office action has failed to identify any suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings as disclosed in claim 1.

Second, the Applicant respectfully submits that the prior art reference (or references when combined) fail to teach or suggest all the claim limitations. For example, the Applicant respectfully submits that the echo estimate filter (306) of the Marchok reference is different from the at least one filter of amended claim 1, in that the Marchok reference fails to teach using a first predetermined set of filter coefficients in a first mode of operation, and a second predetermined set of filter coefficients in a second mode of operation. The Office action admits that the at least one filter of amended claim 1 is not specifically depicted in the Foster reference, and states that it is inherent that the mixer include a weighting filter (See Office action page 3.) The Applicant appreciates the recognition by the Examiner of the absence of any element in the Foster reference corresponding to the at least one filter of claim 1.

The Office action (See page 3) alleges that “it is inherent that the mixer include a weighting filter for near-end signal (160) and a combining circuit to mix the weighted near-end signal with the received signal.” The Applicant respectfully disagrees. According to MPEP §2112, Sec. IV, page 2100-54,55, “[t]o establish inherency, the extrinsic evidence ‘must make clear that the missing descriptive matter is **necessarily** present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.’” (emphasis added) The Office action has failed to specifically point out where such a weighting filter is shown or disclosed by either the Marchok or Foster references, or by any other reference. If the Applicant were to agree, **solely for the purpose of argument**, that the Foster reference teaches a sidetone mixer, then a weighted filter cannot be an inherent element of a sidetone mixer, as the Foster reference fails to teach, suggest, or disclose such a weighting filter. The Office action has failed to provide support for the statement that the weighting filter is **necessarily** present in the teachings of the reference, and has therefore failed to establish that it is inherent that the mixer include a weighting filter. For at least these reasons, the Applicant respectfully submits that a rejection based upon inherency cannot be maintained.

The Office action asserts that the same processor can be configured to perform the VoIP functions of both Foster and Marchok. (See Office action at page 3.) The Applicant respectfully traverses the assertion. According to the M.P.E.P. §2143.01, “[t]he mere fact that references **can** be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination.” (emphasis added) (See, e.g. M.P.E.P. §2142, pg. 2100-131). As discussed above, Marchok is silent with respect to the generation of sidetone and to the existence of a hybrid circuit and the issue of hybrid balance, and Foster makes no reference to the issue of hybrid balance and mentions echo only in passing. No mention is made in any of the cited references of the two functions operating in a single network element. The Applicant respectfully submits that the Office action fails to provide any motivation or suggestion in the cited prior art or the knowledge generally available at the time the invention was made for such a combination or modification.

The Applicant respectfully submits that the Office action has also failed to specifically identify in the references those elements that correspond to the first, second, third, and fourth

switches of amended claim 1. The Marchok reference makes no reference to switches with respect to the echo estimate filter (306) identified by the Office action. The Foster reference also makes no reference to switches with respect to the sidetone mixer (192). With respect to the Vijaykumar reference, the Office action makes the vague assertion that the presence of four logical switches becomes apparent by observing the source operands for the R4, R5, Tx_out, and Rx_out. (See Office action at page 4.) The Applicant respectfully disagrees. The source operands in the pseudo-code of the Vijaykumar reference are program or register variables, which are different from the four switches of amended claim 1. The Office action fails to identify with particularity the specific elements of the Vijaykumar reference that correspond to the first, second, third, and fourth switches of amended claim 1. The Applicant therefore respectfully submits that the proposed combination of references fails to teach, suggest, or disclose the first, second, third, and fourth switches of amended claim 1.

With regard to the Vijaykumar reference, the Office action proposes pseudo-code for a hypothetical echo canceller and sidetone generator. (See Office action page 4.) The Applicant respectfully submits that the pseudo-code presented is different from the at least one filter of amended claim 1. For example, the Office action does not identify use of a first predetermined set of filter coefficients in a first mode of operation, and a second predetermined set of filter coefficients in a second mode of operation, and does not identify a means to alternate between modes of operation. The Office action fails to specifically identify teachings in the Vijaykumar reference that specifically correspond to the at least one filter of amended claim 1. The Applicant therefore respectfully submits that the Vijaykumar reference fails to teach, suggest, or disclose the at least one filter of amended claim 1.

According to M.P.E.P. §2142, “[t]o reach a proper determination under 35 U.S.C. 103, the examiner must step backward in time and into the shoes worn by the hypothetical ‘person of ordinary skill in the art’ when the invention was unknown and just before it was made.” In addition, the MPEP clearly states that “impermissible hindsight must be avoided and the legal conclusion must be reached on the basis of the facts gleaned **from the prior art.**” (emphasis added) The Applicant respectfully submits that the pseudo-code examples of an echo canceller and a sidetone generator shown on page 4 of the Office action came not from the prior art, but were provided as support for the contention that a combination of the two tasks **can** be performed on a processor such

as that disclosed in the Vijaykumar and Foster references. The Applicant further submits that the concept of a combined hybrid balance and sidetone generator, and hence of pseudo-code arranged to perform a combination of the two functions as disclosed in the Application comes not from the proposed combination of references, but solely from the disclosure of the Applicant.

Accordingly, the Applicant respectfully submits that the Office action fails to present facts supporting a *prima facie* case of obviousness in regard to amended claim 1.

Regarding claim 3, the Office action asserts Official Notice and alleges, without any supporting evidence, that “implementing echo cancellers and mixers using FIR filters was well-known at the time of the invention.” (See Office action at page 45.) Applicant respectfully challenges the conclusory assertions made in the Office action without any supporting evidence that the elements recited in [dependent] claims 3 are well known or obvious in the art. Applicant respectfully submits that the elements recited in claims 3 are not well known or obvious in their respective contexts. Applicant respectfully submits that, for example, in the context of the elements as recited in independent claim 1, the elements in dependent claim 3 are not well known or obvious. M.P.E.P. § 2144.03(E) states that “[i]t is never appropriate to rely solely on common knowledge in the art without evidentiary support in the record as the principal evidence upon which a rejection was based.” Accordingly, in order to maintain the rejection, Applicant respectfully requests that the Examiner produce references in support of the Examiner’s contention or, if the Examiner is relying upon personal knowledge to support the finding of what is known in the art, then the Examiner must provide an affidavit or declaration setting forth specific factual statements and explanations to support the finding. See, e.g., M.P.E.P. § 2144.03 and 37 C.F.R. § 1.104(d)(2).

Therefore, for at least the above stated reasons, the Applicant respectfully submits that the Applicant’s invention as set forth in amended claim 1 is allowable over the proposed combination of references. Because claims 2-4 and 6-8 are dependent claims of independent claim 1, claims 2-4 and 6-8 are allowable over the proposed combination of references, as well. The Applicant respectfully requests that the rejection of claims 1-3 and 5-8 under 35 U.S.C. §103(a), be withdrawn.

Regarding claim 9, the Applicant respectfully submits that the proposed combination of references, when taken as a whole, do not teach, suggest, or disclose, for example, a combined sidetone and hybrid balance apparatus comprising a first signal path carrying a first signal, a second signal path carrying a second signal, a mode input having at least a first state and a second state, a reconfigurable filter for modifying at least one of the first signal and the second signal, and wherein the apparatus generates a sidetone signal in the first signal by combining at least a portion of the second signal with the first signal when the mode input is in the first state, and cancels an echo in the second signal by subtracting at least a portion of the first signal from the second signal when the mode input is in the second state.

The Office action asserts that the apparatus of claim 9 is essentially the same as the apparatus of claim 1. (See Office action at page 7.) The Applicant respectfully submits that claim 9 is, therefore, allowable for at least the same reasons provided above with respect to claim 1. With respect to a mode input having at least a first state and a second state, the Office action submits that “[i]n accordance with the pseudo-code provided, different registers will be selected for the different mathematical operations performed by the echo canceller and sidetone generator.” The Applicant disagrees. According to M.P.E.P. §2142, “the prior art reference (or references when combined) must teach or suggest all the claim limitations.” The Applicant respectfully submits that the selection of different registers for different mathematical operations in the example pseudo-code **as created by the Examiner** is different from a mode input having at least a first state and a second state. The Office action has failed to specifically identify in the cited combination of references any element that correspond to a mode input having at least a first state and a second state. The Office action has also failed to specifically identify elements in the proposed combination of references that correspond to, for example, a first signal path carrying a first signal, and a second signal path carrying a second signal. The Office action also fails to specifically identify the element in the prior art that corresponds to a **reconfigurable** filter for modifying at least one of the first signal and the second signal. In addition, the Office action fails to identify where the prior art references generate a sidetone signal in the first signal by combining at least a portion of the second signal with the first signal when the mode input is in the first state, and cancels an echo in the second signal by

subtracting at least a portion of the first signal from the second signal when the mode input is in the second state.

Accordingly, the Applicant respectfully submits that, for at least the reasons stated above and those previously offered with respect to claim 1, the Office action fails to present facts supporting a *prima facie* case of obviousness with regard to apparatus of claim 9.

Therefore, for at least the above stated reasons, the Applicant respectfully submits that the Applicant's invention as set forth in claim 9 is allowable over the proposed combination of references. Because claims 10, 11 are dependent claims of independent claim 9, claims 10, 11 are allowable over the proposed combination of references, as well. The Applicant respectfully requests that the rejection of claims 9-11 under 35 U.S.C. §103(a), be withdrawn.

Regarding amended claim 12, the Applicant respectfully submits that the proposed combination of references, when taken as a whole, do not teach, suggest, or disclose, for example, a method of operating a combined sidetone and hybrid balance apparatus, the method comprising receiving a first input signal; receiving a second input signal; when in a first mode of operation, filtering the second input signal using a first predetermined set of filter coefficients; combining the first input signal and the filtered second input signal to produce a combined signal; transmitting the combined signal on a first output; and transmitting the second input signal on a second output, and when in a second mode of operation, filtering the first input signal using a second predetermined set of filter coefficients; transmitting the first input signal on the first output; combining the second input signal and the filtered first input signal to produce a combined signal; and transmitting the combined signal on the second output.

The Office actions states only that claim 12 is essentially the same as the claim 1, and that claim 12 is rejected for the same reasons. (See Office action at page 8.) No additional details with respect to claim 12 are provided. The Applicant respectfully submits that claim 12 is allowable for at least the reason provided above with respect to claim 1.

The Applicant respectfully submits that, as in the discussion with respect to amended claim 1, the Office action has failed to identify some suggestion or motivation, either in the references

themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings as disclosed in amended claim 12.

In addition, the Office action has failed to specifically identify each and every limitation of amended claim 12 in the proposed combination of references. For example, the Office action has at least failed to identify those elements in the proposed combination of references that correspond to when in a first mode of operation, filtering the second input signal using a first predetermined set of filter coefficients, and when in a second mode of operation, filtering the first input signal using a second predetermined set of filter coefficients.

Accordingly, the Applicant respectfully submits that, for at least the reasons stated above and those previously offered with respect to amended claim 1, the Office action fails to present facts supporting a *prima facie* case of obviousness with regard to amended claim 12.

Therefore, for at least the above stated reasons, the Applicant respectfully submits that the Applicant's invention as set forth in amended claim 12 is allowable over the proposed combination of references. Because claims 13-19 are dependent claims of independent claim 12, claims 13-19 are allowable over the proposed combination of references, as well. The Applicant respectfully requests that the rejection of claims 12-14 and 16-19 under 35 U.S.C. §103(a), be withdrawn.

Regarding claim 20, the Applicant respectfully submits that the proposed combination of references, when taken as a whole, do not teach, suggest, or disclose, for example, a method of operating a combined sidetone and hybrid balance apparatus having a first signal path and a second signal path, the method comprising receiving a control signal having at least a first state and a second state, configuring an electrical circuit based upon the control signal, generating a sidetone signal in the first signal path by adding at least a portion of the signal from the second signal path to the signal in the first signal path if the control signal is in the first state, and canceling an echo signal in the second signal path by subtracting from the signal in the second signal path a modified version of the signal in the first signal path if the control signal is in the second state.

The Office action asserts that the method of claim 20 is essentially the same as the apparatus of claim 1 and the apparatus of claim 20. (See Office action page 7.) The Applicant respectfully submits that the Office action has failed to specifically identify each and every limitation of claim 20 in the prior art. The Office action has failed to specifically identify elements in the proposed combination of references that correspond to, for example, receiving a control signal having at least a first state and a second state, generating a sidetone signal in the first signal path by adding at least a portion of the signal from the second signal path to the signal in the first signal path if the control signal is in the first state, and canceling an echo signal in the second signal path by subtracting from the signal in the second signal path a modified version of the signal in the first signal path if the control signal is in the second state.

Accordingly, the Applicant respectfully submits that, for at least the reasons stated above and those previously offered with respect to the apparatus of claim 1, the Office action fails to present facts supporting a *prima facie* case of obviousness with regard to apparatus of claim 20.

Therefore, for at least the above stated reasons, the Applicant respectfully submits that the Applicant's invention as set forth in claim 20 is allowable over the proposed combination of references. Because claims 21, 22 are dependent claims of independent claim 20, claims 21, 22 are allowable over the proposed combination of references, as well. The Applicant respectfully requests that the rejection of claims 20-22 under 35 U.S.C. §103(a), be withdrawn.

Claims 4 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marchok and Foster in view of Vijaykumar and further in view of Sih (US Patent 5,307,405). The Applicant respectfully traverses the rejection.

Regarding claim 4, claim 4 is a dependent claim of amended independent claim 1. Because amended claim 1 is allowable, the Applicant respectfully submits that claim 4 is allowable over the proposed combination of references. Therefore, the Applicant respectfully requests that the rejection of claim 4 under 35 U.S.C. §103(a), be withdrawn.

Regarding claim 15, claim 15 depends indirectly upon amended claim 12. Because amended claim 12 is allowable, the Applicant respectfully submits that claim 15 is allowable over

the proposed combination of references. Therefore, the Applicant respectfully requests that the rejection of claim 15 under 35 U.S.C. §103(a), be withdrawn.

Conclusion

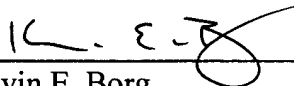
The Applicant believes that all of claims 1-4, 6-15, and 17-22 are in condition for allowance. Should the Examiner disagree or have any questions regarding this submission, the Applicant invites the Examiner to telephone the undersigned at (312) 775-8000.

A Notice of Allowability is courteously solicited.

The Commissioner is hereby authorized to charge any additional fees associated with this communication, or credit any overpayment, to Deposit Account No. 13-0017.

Respectfully submitted,

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